

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection
Bureau of Waste Prevention
Business Compliance Division
One Winter Street
Boston, Massachusetts

Background Information Document
And
Proposed Amendments to:
310 CMR 7.00 Definitions
310 CMR 7.06(1)(c) Visible Emissions
310 CMR 7.24(4) Organic Material Storage and Distribution

Regulations for the Control of Air Pollution
In the
Berkshire Air Pollution Control District
Pioneer Valley Air Pollution Control District
Merrimack Valley Air Pollution Control District
Metropolitan Boston Air Pollution Control District
Central Massachusetts Air Pollution Control District
Southeastern Massachusetts Air Pollution Control District
For Public Comment and Hearings

Statutory Authority:
M.G.L. Chapter 111, Sections 142A through 142N

August 2005

Preamble

DEP is proposing to revise:

- 1) 310 CMR 7.00 - Definitions. The definition of Volatile Organic Compound (VOC) is proposed to be modified to exempt five additional compounds. The Environmental Protection Agency (EPA) issued final rules on November 29, 2004 exempting these compounds.
- 2) 310 CMR 7.06 – Visible Emissions. Visible emissions limitations are proposed for certain facilities required to have Operating Permits.
- 3) 310 CMR 7.24 – Organic Material Storage and Distribution. It is proposed to expand the time period during which gasoline tank trucks are required to be tested for vapor leak tightness.

Background on Visible Emissions

Alternate visible emission limitations for facilities required to have Operating Permits (310 CMR Appendix C) were adopted by the Department on August 3, 2001 - 310 CMR 7.06(1)(c). EPA, in its State Implementation Plan (SIP) oversight role, advised the Department that this regulation was not approvable for inclusion into the Massachusetts State Implementation Plan (SIP). EPA stated that the regulatory requirements would not be enforceable by EPA nor citizens. Subsequently in February 2004, the Department proposed further revision to 310 CMR 7.06(1)(c) to address EPA's concerns. Based upon testimony received as part of the February 2004 public process on this issue and further discussion with EPA, the Department is now proposing new language to replace 310 CMR 7.06(1)(c). The Department believes that this new language is sufficiently different from the February 2004 proposal to require a new public hearing and comment period.

In the early 1970's, Massachusetts adopted visible emission regulations to limit smoke and opacity from combustion facilities such as boilers. (See 310 CMR 7.06(1)(a) and (b)) These established not to be exceeded "caps" on the blackness of the emission (smoke) or degree of obscuration of light transmission (opacity).¹ Although the vast majority of boilers in the Commonwealth comply with these regulations, a small number of industrial size boilers do not comply during periods of startup, shutdown, soot blowing (periodic cleaning of the internal boiler surfaces to maintain heat transfer efficiency) or some other boiler specific transient operating conditions.² These visible emission excursion events are typically short term (a puff to several minutes) typically occurring three to four times per day.

¹ Many state visible emission regulations are stated in terms of average (versus "caps") visible emission levels. Typically, the allowed percent opacity level is determined by averaging a series of visible emission readings taken at 15-second intervals for six minutes. This is EPA's Method 9.

² Some states exempt visible emission exceedances during periods of start up, shut down, soot blowing and other transient operating conditions. According to EPA, states adopted these exemptions either prior to adoption of EPA policy or the exemptions were approved by EPA as part of state SIPs. See *State Implementation Plans (SIP): Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown*, September 20, 1999, EPA. <http://www.epa.gov/ttn/oarpg/t1/memoranda/excem.pdf>

The federal Clean Air Act Amendments of 1990 required states to develop and implement Operating Permit Programs for major sources. Operating Permit facilities are highly regulated when compared with facilities not required to have these permits. They are required to self certify compliance semi-annually, are subject to federal rules regarding compliance evidence, and have specific terms and conditions in their permits for monitoring, testing, record keeping, and reporting for each pollutant, for each regulated operation at a facility.

The Department met several times with representatives of these facilities in the late 1990's. Consequently, 310 CMR 7.06(1)(c) was developed, proposed and adopted in 2001. The February 2004 proposal sought to address industry and EPA concerns and would have required an average opacity limit of 15 percent during normal operations with up to 27% opacity during events such as start up, shut down, soot blowing, and other specified operating conditions as approved by the Department. To take advantage of this regulation, facilities were to engage third party combustion experts to review operations, make recommendations for improvements and submit Plans of Good Operating Practices to the Department. Visible emission limits would be established upon Department approval of these plans and incorporated into the facility's Operating Permit.

Based upon an analysis of comments received on its February 2004 proposal, the Department has determined that additional regulatory conditions should be included to address infrequent opacity excursions.

The Department is again proposing to revise 310 CMR 7.06(1)(c) to address infrequent opacity excursions. Given the complexity of this issue, it is very important that comments on the proposal be clear, specific and complete for the public record. The Department wants to ensure that all reasonable options are fully aired in the public comment and hearing process. Specifically, the Department seeks comment on language in 7.06(1)(c)1.b. and 7.06(1)(c)1.c. These sections would limit the number of excursions that a facility could have over the 27% visible emissions limit during start-up, shut down, soot blowing and other specified operating conditions. For facilities that have certain continuous monitoring equipment, the facility would be prohibited from exceeding the 27% limit for more than one-tenth of 1% of the total block averages during any calendar quarter, provided certain other limits are met. Other affected facilities would be prohibited from exceeding the 27% limit except during one hour per calendar quarter, up to two 6-minute block averages during the hour could exceed the limit. The Department seeks comment on whether the proposed regulation strikes the right balance or whether the Department should allow fewer or more excursions above the 27% visible emissions limit during start up, shut down, soot blowing and other specified operating conditions.

Summary of Proposed Revisions

DEFINITION of Volatile Organic Compound (VOC)

The Department is proposing to amend the definition of Volatile Organic Compound (VOC) by adding the following five chemical compounds to the list of exempt VOCs:

t-butyl acetate
methyl formate
HFE-7000
HFE-7500
HFC227ea

EPA issued final rules to exempt these five compounds from the definition of VOC in the Federal Register on November 29, 2004. EPA also added designations (HFE-7100 and HFE-7200) to two previously exempted compounds to update nomenclature.

It should be noted that compounds that are exempt from VOC requirements are not exempt from any other applicable requirement in the regulations including the provisions of 310 CMR 7.02 Plan Approval and Emission Limitations.

VISIBLE EMISSIONS

It is proposed for facilities with boilers rated less than 500 million BTU per hour and subject to 310 CMR 7.00 Appendix C – Operating Permits, that visible emissions shall be limited to 15% opacity, 6-minute block average except as follows:

During startup, shutdown, soot blowing and other specified periods

- Visible emissions shall be limited to 27 percent, 6-minute block average and
- *During one hour per calendar quarter, visible emissions may exceed 27 percent opacity for up to two 6-minute block averages and
- *For facilities with certain monitoring equipment, visible emissions can exceed 27 percent opacity for one-tenth of one percent (0.1%) of the total 6-minute block averages during any calendar quarter provided:
 - Visible emissions do not exceed 60 percent opacity during any 6-minute block average,
 - At no time can visible emissions exceed 27 percent opacity for more than two 6-minute block averages during a one-hour period,
 - The one-hour average shall not exceed 27 percent opacity during the one-hour period when a 6-minute block average exceeds 27 percent opacity, and
 - The one-hour average shall be based on a 60-minute period beginning with the first 6-minute block average that exceeds 27 percent opacity.

**These conditions are to address infrequent opacity excursions and were not part of the February 2004 proposal.*

The operation of a facility with visible emissions limits as stated above shall be in accordance with the requirements of a Plan of Good Operating Practices. Such plan shall:

- Developed by a third party combustion expert to develop the plan with recommendations to minimize opacity;
- Provide documentation of the need for different opacity limits and a proposal for specific opacity limits;
- Indicate how improved technology, operating and maintenance procedures will minimize emissions;
- Contain corrective action procedures and return to compliance;
- Record keeping and monitoring requirements; and
- Be submitted for Department approval.

Plans of Good Operating Practice are subject to Department approval.

A formal approval process will make the limits and any terms and conditions of the plan enforceable.

The terms and conditions of an approved Plan are required to be put in the Operating Permit.

ORGANIC MATERIAL STORAGE AND DISTRIBUTION

The Department is proposing to expand the period during which gasoline tank trucks are required to be tested for vapor leak tightness. This revision will make Massachusetts requirements consistent with the EPA requirements at 40 CFR 63 Subpart R. The change will provide operators greater flexibility in scheduling testing, and help assure there are sufficient trucks available to deliver fuel.

Air Quality Impacts

The proposed changes will have minor, if any, air quality impact.

The change in the definition of VOC will decrease the number of compounds regulated as VOC's, but not change the potential regulation of these compounds for other air quality reasons.

The proposed amendments for visible emissions codify existing implementation practice of the visible emission regulations as they apply to large boilers.

The tank truck testing frequency proposal will have no impact as it does not affect standards, it increases testing flexibility.

Savings Clause

Any regulatory amendments that affect regulations and programs that are part of the Massachusetts State Implementation Plan (SIP) must demonstrate that they are no less stringent than the existing SIP and that any projected increases in emissions that result from the amendments are offset by equal or greater predicted emission decreases.

As there are no emission increases or adverse air quality impacts projected as a result of these proposed amendments, there are no compensatory emission decreases that need to be made.

Economic Impacts

The proposed revisions will have little if any economic impact because they simply codify the Department's existing regulatory implementation, make the regulations consistent with EPA rules, provide increased flexibility and bring the Department's regulations into line with current industry practice related to operation of large industrial boilers.

Impact on Small Business

There are no impacts on small business as the size and types of boilers that this proposal affects are not found at small businesses. The changes to the definition and tank truck testing frequency and the exemption of some compounds from VOC requirements may benefit some small businesses.

Agricultural Impacts

Massachusetts General Laws, Chapter 30A, Section 18 requires state agencies to evaluate the impact of proposed programs on agriculture within the Commonwealth. As the proposed amendments affect only industrial facilities and non-agricultural business, the Department has determined that the proposed regulations will have no adverse impact on agriculture in Massachusetts.

Toxics Use Reduction

Implementation of toxics use reduction is a Department-wide priority. Toxics use reduction is defined as in-plant practices that reduce or eliminate the total mass of contaminants discharged to the environment. These amendments are not expected to impact on that effort. Although the definition change exempts five additional compounds from VOC requirements, this action does not exempt them from any other applicable requirement in the regulations.

Impacts on Cities and Towns (Proposition 2 1/2)

Pursuant to Executive Order 145, the Department must assess the fiscal impact of new regulations on the commonwealth's municipalities. The Executive Order was issued in response to Proposition 2 1/2.

These regulations do not affect an activity conducted by a municipality.

MEPA

This proposed action is "categorically exempt" from the "Regulations Governing the Preparation of Environmental Impact Reports", 301 CMR 11.00, because the proposed amendments will not result in increased impacts. All reasonable measures have been taken to minimize adverse impacts.

Request for Comments

Comments on these proposed regulations should be sent to:

Mr. Robert T. Donaldson, Associate Director
Business Compliance Division
Bureau of Waste Prevention
Department of Environmental Protection
One Winter Street Eighth Floor
Boston, Massachusetts 02108

Public Participation

These proposed regulations will be subject to further public review and comment prior to promulgation. Public hearings to collect comments on the proposed amendments will be conducted under the provisions of Chapter 30A of the Massachusetts General Laws on:

October 18, 2005 – 9:30 AM

Department of Environmental Protection
One Winter Street, Second Floor
Boston, Massachusetts

October 19, 2005 – 9:30 AM

Department of Environmental Protection
436 Dwight Street, Room B42
Springfield, Massachusetts

Testimony may be presented orally or in writing at the public hearings. Written comments will be accepted until 5pm on October 28, 2005 at the Business Compliance Division, Department of Environmental Protection, One Winter Street, 8th Floor, Boston, MA 02108.

After public review and Department evaluation and response to comments, the final amendments will be submitted to the Secretary of State for promulgation. The amendments will also be submitted to the US Environmental Protection Agency for approval as a revision to the Massachusetts State Implementation Plan.

If there are any questions regarding the proposed amendments or this document, please contact Bob Donaldson at (617) 292-5619.